PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference PAM-019-PCT	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/EP2004/013526	International filing date *(day/month/year)* 29.11.2004	Priority date *(day/month/year)* 28.11.2003
International Patent Classification (IPC) or national classification and IPC G01N33/543		
Applicant PAMGENE B.V. et al.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☐ *sent to the applicant and to the International Bureau)* a total of sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
28.09.2005	23.11.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Moreno de Vega, C Telephone No. +49 89 2399-7486

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/013526

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:

   - ☐ international search (under Rules 12.3 and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4)
   - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

   Description, Pages

   1-39 as originally filed

   Claims, Numbers

   1-54 as originally filed

   Drawings, Sheets

   1/5-5/5 as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/013526

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-54
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-54
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-54
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US-A-6 103 479 (CELLOMICS, INC) 15 August 2000 (2000-08-15)
D2: US-A-6 197 575 (MASSACHUSETTS INSTITUTE OF TECHNOLOGY) 6 March 2001 (2001-03-06)
D3: WO 01 45843 A (GENE LOGIC INC) 28 June 2001 (2001-06-28)
D4: US-B1-6 225 131 (AKZO NOBEL) 1 May 2001 (2001-05-01)

Document D1 (see especially column 6 lines 48-67, column 8 lines 34- 57 column 13 lines 5-56, and claims 1-5) discloses devices and methods of performing high throughput screening of the physiological response of cells to biologically active compounds, comprising a fluid delivery system for delivering a combinatorial of reagents to the ordered array of cell types. D1 does not disclose a support having cells on its surface and a supply chamber opposite to said cells, nor a device and a supply chamber to deliver to a porous support having multiple insertions fixed or movable and wherein said insertions determine the number of components.

Document D2 (see especially claims) discloses a porous matrix comprising channels which support the viability of cells, endothelial cells within the channels of the matrix, and means for detecting changes in the cells or in compounds exposed to the cells, and discloses as well a method for screening cellular effects of drugs using said system. D2 relates to a micromatrix network wherein cells are seeded and cultivated in order to obtain mimicked tissues or organs. D2 does not disclose the method of the present invention, wherein the cellular components are retained on the surface of the solid porous support and not present in the pore, nor the device and supply chamber as disclosed in present claims 38 and 49.

Document D3 (see especially claims, page 24 line 27 - page 25 line 27) discloses a system for performing hybridization assays comprising a cartridge for housing a flow through device, where the cartridge includes a test fluid chamber, and fluidics station to deliver the test fluid mixture to the cartridge. This document does not disclose a method for screening cellular responses comprising the provision of a solid support onto which cellular components are provided and which is in contact with a supply chamber opposite to the side onto which the cellular components are, nor the supply chamber of the present invention.

Document D4 discloses a device for performing an assay comprising a substrate having through-going channels that open out onto a surface for sample application, the channels being provided in at least one cross-sectional area with a first binding substance capable of binding a particular analyte. D4 does not disclose the supply chamber of the present invention and the use of said chamber in combination with a solid support as disclosed in the present claims.

The technical problem to be solved by the present invention is the provision of a devices and methods for cell-based high-throughput microarray assays. The known prior art, taken alone or in combination, provides no hint to the solution proposed by present claims 1-54.

Thus, present claims 1-54 meet the requirements as set forth in Articles 33(2) and (3) PCT.